

## ABSTRACT

The present invention is related to a medium access control (MAC) protocol for  
5 avoiding collisions among ESTAs when two or more overlapping basic service sets  
(OBSSs) co-exist and operate in the same channel. To achieve this, each mobile station  
operating under HCF maintains a first counter known as Network Allocation Vector (NAV)  
and a second counter known as Overlapping Network Allocation Vector (ONAV), which is  
10 updated within a mobile station by frames coming from OBSSs, during the Contention Free  
Period (CFP) or during a Contention Free Burst (CFB) granted by a polling frame. The  
mobile station uses the NAV to update only to the medium occupancy in its own BSS to  
ensure that the mobile station will not interfere with the transmissions in its own QBSS,  
while the ONAV is used to avoid collisions with the mobile stations from the OBSS.